

Copenhagen, Berlin, and Stuttgart, he has been enabled to present an exceedingly full account of the anatomy of these hitherto little-known animals, in which very many new facts will be found, but which space forbids us to extract. The diagnoses are all in Latin, as well as the explanation of the plates (nine in number), containing anatomical details.

M. Ström's papers on Danish Lepidoptera (iii. pp. 1 & 107; iv. p. 381) contain several observations of more than merely faunistic interest, of which we can only find room for one. He points out a gradual degradation, as it were, in the females of *Orgyia antiqua*, *gonostigma*, and *Ericce*, corresponding to peculiarities in their development, the antennæ being dentated in the first, crenulated in the second, but much shorter and merely filiform in the third; the rudimentary wings are closely covered with hair in the first, sparsely haired in the second, exceedingly small and naked in the third; and the legs show a similar gradation. Accordingly he has found that the female of *O. antiqua* entirely disengages herself from the double cocoon, and places her eggs on the outside of it; whilst that of *O. gonostigma* only perforates the inner cocoon, and remains hidden behind the outer cocoon, which forms a sort of curtain, leaving a sufficiently large opening to admit the male; and the female of *O. Ericce*, finally, never leaves the pupa-skin, just as is the case with some species of *Psyche*. Probably, in order to facilitate the fecundation, the pupa is placed in an inverted position in the cocoon, which is found in the tops of the heath.

The Record of Zoological Literature, 1866. Volume III. Edited by ALBERT C. L. G. GÜNTHER, M.A., M.D., Ph.D., F.R.S. &c. Van Voorst, 1867.

In consequence of the illness of one of the Recorders, the volume of 'The Zoological Record' for the literature of 1866 was published at a later period than usual. "An undertaking of this kind," it is observed in the preface, "must, of necessity, be occasionally exposed to the danger of such a delay without the Editor having it in his power to guard against it."

Each year that this work comes to us we feel more and more its extreme usefulness. Without some such help as that afforded by this volume it is impossible for the zoological student to keep up with the literature of the day. The number of investigators in every branch of natural history is year by year increasing; the works published, in all languages, multiply in like proportion; many of them are extremely difficult to procure through a bookseller, and not to be found in our best public libraries; and periodicals devoted to natural history in general or to some particular class, and Transactions and Proceedings recording the investigations of the members of the rapidly increasing number of scientific societies, render the attempt of the individual worker to keep himself acquainted with all that is being written almost hopeless. Here, then, the 'Zoological Record' comes

to his aid; in it he finds the pith and marrow of all that has been published during any year:—the new genera described; references to the descriptions of the new species of any particular genus; summaries of the more important points in papers which treat of geographical distribution, of classification, of anatomy, physiology, &c. The third volume of the 'Record' forms a systematic guidebook to about 30,000 pages of the zoological literature published (with the exception of a comparatively small part) within the year 1866. This number, we further learn from the preface, is divided between the various classes thus:—Mammals 3000, Birds 4500, Reptiles 1000, Fishes 2400, Mollusks and Molluscoids 2000, Crustaceans 900, Arachnids and Myriopods 1000, Insects 11,000 (viz. Coleoptera 5000, Hymenoptera 1300, Lepidoptera 2100, Diptera 730, Neuroptera and Orthoptera 430, Rhynchota 900), Annelids 1000, Scolecides 900, Echinoderms 170, Cœlenterates 860, Protozoa 900. We believe that in saying we feel we owe a great debt of gratitude to Dr. Günther and his able coadjutors for the valuable assistance they give us in the yearly summaries of the 'Zoological Record,' we are giving expression not to our individual feelings, but to those of students in zoology generally. That gratitude is enhanced by the fact that we are aware that the work has as yet been published not only at the cost of much time and labour, but also at the sacrifice of pecuniary loss to Dr. Günther, his fellow labourers, and that most enterprising publisher, to whom naturalists owe so much, Mr. Van Voorst. We trust that a yearly increasing sale, as the 'Record' becomes more widely known on the Continent, may by degrees turn that loss into a profit. Meanwhile, at the Meeting of the British Association at Dundee, steps were most justly taken to secure the editor from further loss in the publication of the volume for the ensuing year. We shall rejoice if at future meetings of the Association similar aid is volunteered on the part of the Committee. Most certainly there is no purpose to which a grant in Section D can be more advantageously applied than in the preparation of a publication of the value of which every scientific zoologist is fully sensible, and the discontinuance of which would prove a great drawback to the "advancement of science."

Volume III. unquestionably surpasses either of its predecessors in the carefulness and completeness of its execution. The Records remain the same as in the former volume; but they have learned by experience, and, warming to their work, do it more effectually. Perfection in the first volumes of such an arduous undertaking it would have been most unreasonable to look for; but they came nearer to perfection than could have been expected. Improvement is, however, obvious in the 'Record' of 1866, especially, where it was most needed, in the reports on the lower classes of animals. In the first volume there was no notice on the Cœlenterata and Protozoa; in the second volume the literature of 1864 and 1865 was epitomized, but the analysis was not as satisfactory as could have been wished. In the present volume, however, we find this part of the subject well handled.

Mr. Spence Bate, in his references to Mr. Norman's "Report of

the Committee appointed for the purpose of Exploring the Coasts of the Hebrides by means of the Dredge," in almost every instance gives the habitat of the new genera and species described as "Shetland Isles!" a *lapsus* certainly calculated seriously to mislead those who do not refer to the original paper. We notice also, in this report on the Crustacea, constant references in cases where, on turning to the original (*e. g.* to the papers of Goës, Heller, Sars, &c.), we find no information beyond that given by the Recorder, viz. the name and locality. Such references to the commonest of species, as "*Cancer pagurus* (L.), Sars, *l. c.* p. 10," or "*Pagurus bernhardus* (L.), Sars, *l. c.*; Sp. B., Brit. Assoc. Rep. 1865, p. 52, and Ann. Nat. Hist. vol. xvii. p. 25," are worse than useless, when, on turning to the original papers, we find nothing but the name. In dealing with catalogues it is surely the better plan to give a short abstract of results in a note following the title of the paper, mentioning the total number of species recorded, and adding the names of such as seem peculiarly interesting from the fact of our knowledge of their geographical range being thus materially extended, or other circumstances. In one case, "*Corophium bonelli* (Edw.), Heller, *l. c.* p. 51," we cannot find even the name; the species is not mentioned by Heller either on that page or in any other part of his work.

PROCEEDINGS OF LEARNED SOCIETIES.

DUBLIN NATURAL-HISTORY SOCIETY.

The monthly meeting of this Society was held at the Royal Irish Academy, on Thursday the 5th of February, the Rev. Prof. O'Mahony, A.M., in the Chair.

Mr. Bradshaw read a paper "On the Habits of some Irish Birds."

Dr. Macalister read a paper "On the Myology of the Otter (*Lutra vulgaris*)."

Mr. W. Andrews, M.R.I.A., Chairman of the Natural-History Committee of the Royal Dublin Society, stated that he was anxious to have placed on record several species of rare Irish Sponges that had been noticed at the early meetings of the Society, but which had not been mentioned as Irish in Dr. Bowerbank's recent work on British Spongiadæ. Very fine specimens of *Grantia nivea* of Johnston (*Leuconia nivea*, Bowerbank) were exhibited by Dr. Scouler, in May 1844, obtained from Roundstone Bay, Connemara. The singularity of the species from that coast does not appear to have been noticed by Bowerbank, who gives no record of any Irish locality; by Thompson the name is merely given, "west coast of Ireland, M'Calla." Dr. Scouler, at a meeting early in 1846, gave the characteristics of *Halichondria hispida*. This rare species had not been obtained since it was recorded by Montagu, in the Wernerian Transactions, as met with on the south coast of England,—this discovery being its first record as Irish, it not having been until then found since the time of